PRESIDENT'S COLUMN

THE ATARI COMPUTER SHOW: The first World of ATARI Fair (or the second ATARI Expo, depending on your point of view) was a resounding success on June 19 & 20 at the Santa Clara Convention Center. This year ATARI did most of the preparation. Sandi Austin, who has acquired considerable experience in show planning and management in the last year appeared to shoulder most of the burden. We hope that ATARI management appreciates what she accomplished. The five Bay Area user groups provided manpower for setting up, tearing down, ticket taking, staffing three educational areas, etc. Warren Lorente, George Gaboury, and I met weekly before the show with Sandi and representatives of the other user groups to help plan. Warren & George honed their marketing skills with phone calls to potential exhibitors. ABACUS took responsibility for the ST Classroom offering 19 classes (20-30 min. each) introducing the ST Desktop, Neo graphics, and word processing with 1st Word. ATARI provided 15 ST color systems. Every seat was taken for almost all of the classes with others standing around to observe. Assisting me in the instruction were ABACUS members: Ed Waldorph, Rob Re, Del Severy, Larry Wong, Jay London, Charles Cherry and two of my former srtudents, Ian

Lovejoy and Alex Wong. Assisting in the ABACUS booth, ticket taking and other show chores were: Warren Lorente, George Gaboury (who organized the MIDI system at the ABACUS booth), Daniel Reid, Larry Rhodes, Tony Cesnik, Bob Scholar, Rad Dewey, and Roger Sinasohn. Special thanks to the following who drove down Thursday to set up: Charles Cherry, Daniel Reid, Levi Allen (who ferried equipment back and forth from his home in Novato on Thursday and Sunday), Rob Re, Tony Martinez, George Gaboury, Warren Lorente & Bill Zinn.

The Fair had lots of highlights including a production model of the 4 Meg Mega ST running the ATARI Laser printer, the PC clone, and the XEP 80 eighty col. board for the 8 - Bit machines. Seymor Radix showed their Neo and Degas compatible image scanner for the ST. BAUUG, the peninsula user group offered classes for 8 bit users using 130XE's provided by ATARI and Lois Hanson from the San Leandro group showed educational software for both 8-Bits and ST's.

Attendance was estimated at about 4000 though the final count has not yet been completed.

THE JUNE MEETING: Our first meeting at the 19th Avenue Diner appeared to be a success. The JBL video projection system gave every one a first row seat for demos, and the Diner kept away hunger (and thirst). A few bugs remain to be worked out before we have a grand opening with speakers, refreshments and the works.

A New Home for ABACUS: *The 19th Avenue Diner*
1201 19th Ave. (at Lincoln by Golden Gate Park) 2nd Floor. Beginning JUNE 6, All meetings (8 bit and ST) will be on the first Sat. of the month. The schedule will be:

    8 Bit at 10:00AM to 1:00PM; ST at 12:00 to 3:00 PM

Noon to 1:00 will be used for activities of interest to both groups, special guests, business meeting, etc.
So, buy your lunch at the Diner (great sandwiches-though not cheap) and DO NOT PARK IN THEIR SMALL LOT.

July-- Meet 2nd SAT 7/11

NEWSLETTER CONSTRUCTION SET
by Charles Cherry

THE DINER

Personally, I think that the 19th Ave Diner is a great success. The surroundings are extremely pleasant, the AV stuff works well and will work better as we become familiar with it, and the people are amiable. My only concern is that it will be too small in the future. But for now...enjoy. If you have not been coming to meetings, you owe it to yourself to drop by and check it out. When you come, bring a few $$ to spend in the Diner. The menu is good, the prices aren't that bad and the bar is very nice. These people have to make a living too, so let's support them. Just don't park in their lot.

NEWSLETTER DEADLINE

This month's newsletter comes at the regular time, but the meeting will be a week late (July 11) because of the fourth of July. This means that you got your newsletter a week and a half (roughly) before the meeting. We are going to maintain this lead time for a few months to see if it works better. The idea is that getting this meeting reminder a little earlier will help everybody's planning. Therefore, the deadline for the August newsletter will be July 18, 1987 (the meeting will be August 1).

THE WORLD OF ATARI FAIR

Yes, it happened again. And, dispite the dire predictions about inadequate lead time, it looked like a success to me. What was most impressive was the relaxed and confident air in the place. It was a marked contrast to last year's clenched teeth intensity. Of course it helped that Atari's stock split 2-for-1 on the first day. I'd say that Atari has Arrived.

On Friday morning there was a seminar to introduce the User Groups to the public. I spoke on behalf of ABACUS (well, you weren't there). It got to be a contest to see who could promote their group the most, claiming to be the biggest, the first, the best, etc. I just pointed out that we tried to be the most helpful and that while SLCC meets in a library, we meet in a tavern. I got a lot of new members for us when I pointed out that we have Bass Ale on tap.

THE ATARI FAIR

I discovered the best way to see the fair is to work there, you see all kinds of interesting behind the scenes stuff like Atari handing out equipment to everyone because they forgot the list of who was supposed to get it. Jerry Brown, the new General Manager of Atari, started talking to me and another guy who happened to sit next to him. He asked what we thought the pricing on the Mega-ST and Laser printer should be. We told him the 1 Mega mono should be under a grand and $200 a meg above that. We told him a Laser printer is extravagant for home use. He asked what he could do to get us to buy one. I told him it needed a built-in xerox copier. I don't suppose anything will come of it, but it felt good. Lee Iaccoca never asked me anything.

Several ABACUS folk went to dinner together Friday night. David Small and his partner joined us. David is a very funny guy, regaling us with stories of the Atari and Apple reactions to the Magic Sac. You probably saw David in his booth. He was the one wearing the Soldier of Fortune Magazine T-shirt.

WONDER OF WONDERS, ATARI ON TV

Atari was showing it's new TV commercials. They're pretty funny and take dead aim at Apple and IBM. Alan Alda was nowhere in sight.

Speaking of TV, I caught Jim Capparell on The Computer Show last week. Jim is one of the founders of ABACUS and is the founder and publisher of Antic, STart, Model Shopper, II Computing, The Catalog line of software, et. al. He was showing off CAD-3D 2.0 (now called Cyber Studio, although even Jim had trouble remembering that). The demos went well; it is a most impressive product. But what was fascinating was the reactions of the "experts" on the show. They didn't know an Atari could do such things (although they knew an IBM couldn't). They thought the Atari was just a game machine. That was so fixed in their minds that they could not think of any "real" applications for CAD-3D(!) However, they agreed that it was a lot of fun.

BARGAIN OF THE MONTH

Federated (the big stereo chain) is selling Atari ST monochrome monitors for $79. It appears to be their regular price, not a special. Buy one before they regain their senses. I understand the dealer's cost is about $65. Why should you get a mono monitor when you have a perfectly spectacular color one? Well, everyone I know who has both, never plugs in the color one. Besides, the mono will let you use the MAGIC SAC. (More things to buy, sigh...).

ATARI EDUWARE
by Tony Cesnik

Educational software? Atari! That's a joke, you say. Atari doesn't have _educational_ software. Would 750 disks for the 8 bit surprise you? How about talking software for the ST that doesn't use a synthesizer? These and many other amazing feats were to be found at the Educational Software Booth at the World of Atari.

I staffed the booth with Lois Hanson, a teacher from the San Leandro Users' Group. Children and parents alike seemed to really enjoy being able to use the programs with no pressure to buy anything. KINDERAMA was a big favorite with the little ones. "1-2,3-4,5-6,7-8,9 Robots!", was the excited response from one little boy sitting on his father's lap. "That's right, you need one square and two machines," said Lois to a girl operating the Factory Maker software.

But the most inspiring participant was a young boy who was _intensely_ concentrating on a program that taught the concepts of above and below. His mother said he had been diagnosed as autistic and mildly retarded. For a long time he struggled to coordinate his hand movements with his eye scan of the computer monitor. "Eye contact!" the mother said as she snapped her fingers. Look at the screen and Uther" hit the keys. Lois placed a cable in the middle of keyboard to separate the upper rows from the lower ones. Soon the young man received his reward. Rows of squares and dotted lines formed a pattern. He continued to work without prompting from that point on. I was very happy to see him achieve success. That's what the computer revolution is all about.

GET INVOLVED

We still need ST and 8-bit Vice Presidents or program managers or whatever you want to call them. We also will need an 8-bit newsletter editor soon. I just got an Although I love the 8-bit, I'm not going to kid myself. When you get a car, you put away the bicycle.

BASIC BUG IN HOME ACCOUNTANT

Jim Garvey—LA-ACE

This is about how I found a bug in the Home Accountant program (published and copyrighted by Arrays, Inc./Continental Software), and in the process found out something about how Basic works that I had not seen described in any of the books I have read. Even if you don't use Home Accountant, you may be interested in this because the problem is not a flaw in the program logic, but it is the result of a bug in the way Basic handles the ON—GOSUB command. This applies to Atari Basic and to BASIC XL (Optimized Systems Software, Inc.)

The bug, which has been bothering me for two years, is in the Budget section of the program. If I pick "Edit Category" in the Budget module, what happens is this: After I change an item, for example "G" for April, I press "R" and RETURN to record the change. Instead of recording the change, the program puts the cursor back on April, and I have to enter the change again. If I persist, and keep entering the change and pressing "R", eventually the program will record the change and move on to other things. If I make several changes in a category, the program will keep returning to the last item changed, once for each change made, before finally recording the changes. This bug does not disable the program, but it is extremely irritating.

Since this is a part of the Home Accountant program that I only use at the beginning of a new year, I have lived with the bug until now. I did try to find it a year ago, but I couldn't. Although the program is written in Basic and is listable, the code seems to be intentionally written to be difficult to follow, with frequent GOTO's and subroutines calling subroutines calling subroutines. The program is evidently translated from another machines Basic which did not allow GOTO or GOSUB to a variable. So all the GOTO's and GOSUB's are to meaningless line numbers instead of named subroutines. I just kept getting lost in the logic. But then I got the Basic Tracer routine from Antic Magazine (Sept. 1986). This let me slow down program execution and follow the program from line to line without messing up the screen display. Using this tool, I was able to pinpoint the spot where the program went astray.

Line 4045 of the program "BUDGET.BAS" on side one of the Home Accountant program disk reads:

```
4045   CH=ASC(CHS)-64:ON CH GOSUB
1200,1000:X=CH-K1-K2:IF X<K0 THEN 4060
```

The program executes this line while processing my choice from the Edit Category menu. CHS is the letter I entered (A through O, X, or R). The first part of the code converts the letter to an ATASCII number and subtracts 64 so that we end up with A=1, B=2, etc. This number is stored in CH. The next part of the code has two subroutines to go to for special processing if I chose to edit A (Category Type) or B (Category Title). Any other choice skips these subroutines. In other words, if CH=1 or 2, the ON—GOSUB statement will execute one of the subroutines, but if CH equals any other value, Basic skips the subroutines and proceeds to the next statement (X=CH-K1-K2). It all looks fine. But this is exactly where the problem is. Most of you already know this, but just for background, the way Basic handles a GOSUB is this: First, BASIC saves its location in the program by storing it in the runtime stack, which is a place in memory that Basic uses for storing return addresses for subroutines and FOR—NEXT loops. Then Basic goes to the subroutine just as if there were a GOTO. When Basic, as it chugs along through the program, reaches a RETURN statement, it pulls four bytes from the runtime stack which represent the line number and the offset into the line – in other words, the return address—and goes to that address. This brings program execution to the statement following the GOSUB.

The GOSUB in an ON—GOSUB statement works the same way. But the ON adds a complication. When Basic sees ON, this is what happens: First the variable (in this case, CH) is evaluated. If the variable equals zero, Basic skips to the next statement, and everything is fine. If the variable is non-zero, Basic looks to see if there is a GOTO or a GOSUB. If there is a GOSUB, Basic stores a return address on the runtime stack. Then Basic looks at the variable again and uses it to select a line number to go to. If the value of the variable is greater then the number of choices available, Basic will fall through to the next statement without going anywhere else. But the return address is still on the runtime stack. Nothing removes it.

If you would like to see this in action, try this test program:

```
10 ? "What number";
20 INPUT X
30 GOSUB 100
40 ? "Try again.":?
50 GOTO 10
100 ON X GOSUB 200,300
110 ?"Are you seeing double?"
120 RETURN
200 ? "You picked 1.":RETURN
300 ? "You picked 2.":RETURN
```

When you run the program, you will see that when you enter 1 or 2, the program execution goes where it should; but when you enter a larger number, there is an extra pass

through line 110. In a complex program, this could cause problems.

In the case of Home Accountant, line 4045 is part of a subroutine called by another subroutine. When I have finished making changes, I press "R" to record the changes. The program will RETURN from the edit subroutine and record the changes. But the return address Basic pulls off the runtime stack is not the right one because line 4045 put its own address on the stack but did not go to the subroutine that would have pulled it off. In fact, this happens every time the program goes through line 4045; which is once for each item edited. As I keep entering "R", the return addresses to line 4045 keep getting pulled off the runtime stack. Eventually the correct return address gets pulled off, and the program is back on track. Not fatal, perhaps, but extremely irritating.

This is a bug in Atari Basic and in BASIC XL as well. It would be better if Basic did not save a return address until it determined that a GOSUB would be executed. But we have to live with it the way it is now.

So what is the fix? There are two ways to avoid the problem. One is to test the variable before the ON_GOSUB statement. The other is to execute a POP statement after the ON_GOSUB if the variable is out of range. For example:

```
10 IF X<3 THEN ON X GOSUB 100,200 or 10 ON X GOSUB

100,200:IF X>2 THEN POP
```

You do not have to worry about $X=0$, because that causes no problem. If X is less than zero (or greater than 255), error #3 will be generated, and execution will stop unless the error is TRAPped. If you are writing a program that might be run in Turbo Basic, the first fix is safer because Turbo Basic doesn't have this bug so the POP in the second fix could cause trouble.

In my fix on Home Accountant, I chose the first method, because I was not sure if the subroutines left the value of the variable CH alone. Here is the line.

```
4045 CH = ASC(CHS)-64:ON CH GOSUB 1200,1000:X = CH-K1-K2:IF

X<K0 THEN 4060
```

First, to make some room, I re-numbered lines 4046 and 4047 to become 4047 and 4048. This is because 4045 must be broken into two lines. (I searched the rest of the program to make sure that 4046 and 4047 were not the target of a GOTO or GOSUB before I changed them.) The old 4045 now becomes:

```
4045 CH = ASC(CHS)-64:IF CH<3 THEN ON CH GOSUB 1200,1000

4046 X = CH-K1-K2:IF X<K0 THEN 4060
```

If I had not broken up the line, the part that is now 4046 would never be executed for CH greater than 2, which is not what is wanted.

This is all there is to the fix, and it works great. However, Home Accountant is a copy-protected program, so a few notes: First, make a back-up copy of the program disk. Either duplicate the disk or copy all the files (copy D:*.*). The back-up disk will not run but it will preserve the programs. Also, if you boot the original program disk, once you get to the main menu, you can switch to the back-up disk and run the rest of the program

from the back-up disk. That way, you could make the changes on the back-up disk and run from it whenever you want to use the Budget module. Another possibility is to make the change on the original program disk and just keep the back-up to preserve the original program. That way, if you have a problem, you can copy BUDGET.BAS from the back-up disk back to the original program disk. Don't change anything until you have a back-up.

Also, note that the program I am talking about is BUDGET.BAS on side one of the Home Accountant program disk. If your line 4045 doesn't look like mine, you have a different version of the program. You may be able to find a similar line and still use the fix. Make sure you have a back-up. Also, make sure that your program has the bug before you try to fix it. The publishers of the program told me that I have the latest version, but it is dated 8/16/82 so you never know.

I am indebted to The Atari BASIC Source Book by Bill Wilkinson, Kathleen O'Brien, and Paul Laughton (Compute Books). Without this book I might never have figured out why this was happening.

Good work, but I think we might need just a little more detail right here.
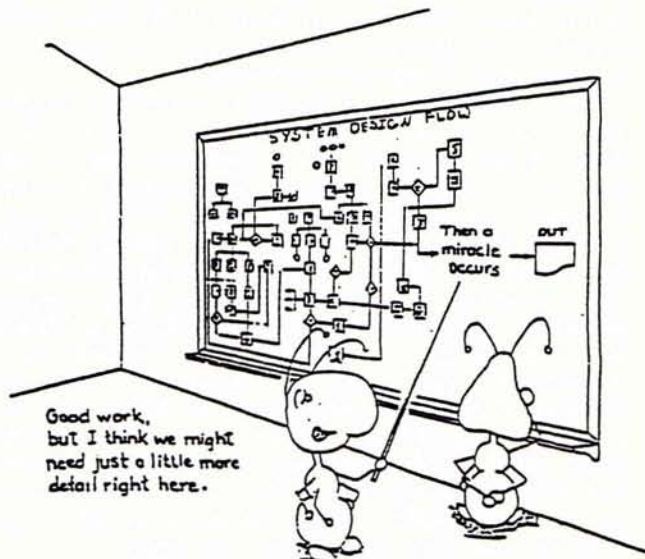
```
===================================
```
ATARI PLANETARIUM
Reviewed by John Parthea
```
===================================
```

Once in a great while a program will come along which is so irresistible that some people will buy X-brand computer just to run it. We've seen it happen before. Star Raiders sold many 400's and 800's in the early days of Atari. Apple experienced the same phenomenon with VisiCalc. If one program can be said to contribute the most sales of Commodore 64 computers than any other, it is Sky Travel. Sky Travel has won more educational awards than any other program available for any machine. Fortunately, the authors of Sky Travel have ported over a version of their successful program to the 8 and 16 bit Atari computers under the label "ATARI PLANETARIUM."

ATARI PLANETARIUM has some very stringent system requirements. This is one of my few complaints with the program. In order to run ATARI PLANETARIUM you must have an XL/XE Computer with a minimum of 64K ram, and a 1050 disk drive. An Atari XMM801 or Epson compatible printer is optional. Unfortunately, Atari has limited this program to a very narrow subset of 8-bit owners. I have also discovered that ATARI PLANETARIUM may not work properly with many of the third party enhancements to the 1050 drive. If you're lucky enough to happen to meet the system requirements specified for the program, you're in for a real treat!

ATARI PLANETARIUM is the most powerful astronomy program available anywhere for any personal computer. In making a great package greater, Atari supplies you with a spiral bound user's guide which is over 100 pages long. This adds tremendous substance to the program. The manual teaches you how to boot-up the program and guides you with a mini-tour of the Planetarium and the Universe it exhibits. Just for fun Atari includes a mini-course in: Astronomy, Chronology, Navigation, History/Archaeology, Space Exploration, and even concludes with a mini-essay on the exploration for Extra-Terrestrial Life. Atari hasn't seemed to have overlooked anything when they put this one together!

When you first boot up ATARI PLANETARIUM, your are defaulted to a preset time and location. Unfortunately, (complaint #2) they have made no provisions for saving your default location to disk. However, setting your location is accomplished quite easily. If you know your latitude and longitude, you have a heads start. By selecting one of the program's options called "MAP," a near full-screen projection of the world map appears on your monitor. You then move the joystick (Up/Down & Left/Right) until a window in the upper right hand corner of your screen reads your correct latitude and longitude. What if you don't know your latitude or longitude? No problem! You can simply move your cursor on the map until you find a rough estimate of where you live. Although this method is cruder than the previous, it will suffice for most practical observations or until you can find your latitude and longitude from a standard map or in the manual's tables. After setting your location, you continue on by setting your local time. For some reason, Atari chose not to include provisions for Daylight Savings Time (complaint #3). This is important to know! During Daylight Savings Time (Spring and Summer) you will have remember to add 1 hour to the time displayed on your screen for the real sky to correspond with what your monitor shows. For example, on July 4, 1987, if the ATARI PLANETARIUM is set at 8:00 p.m. on your monitor, your display will represent the "REAL" sky at 9:00 p.m. During normal Central Standard Time (Fall-Winter), the displayed time needs no adjustments.

From this point on, the program is a sheer delight! Your screen suddenly becomes a "Domed" ceiling, and on it is displayed the sky that you have requested. Don't recognize that star or planet on the screen? An identify mode lets your move a cross-hair over any object on screen -- hit the joystick's fire button now, and you'll get a complete description of the object you requested to be identified. It's almost like having an astronomer in your own home! If you like, you can even change the cross-hairs into a space shuttle cursor complete with rocket sound-effects. You have four "eyepieces" from which you can choose. Use higher magnifications to bring galaxies, planets, etc. into closer view. Perhaps the most amazing feature of this program (and the one that sets it aside from any other competing programs I have seen) is the ability to watch the sky move in real-time, or accelerated time. Imagine watching an eclipse happen on your monitor screen, and then going outside to watch it for real! Even sunrise/sunset shows are almost too cute as the sky color sequence changes from blue to red-purple-black as the sun sets. The reverse color sequence occurs when the sun rises. Once again, Atari hasn't seemed to have missed much. For those users with compatible printers, ATARI PLANETARIUM has a "Chart" feature, which lets you make printouts of your screen to take with you under the real sky.

Whoa, quite a bit of programming, no? Atari has designed this program to be as user-friendly as possible to beginners, while satisfying even the most rigorous demands of advanced astronomers. ATARI PLANETARIUM allows you to calculate (at blinding speeds) the positions of over 1500 stars and all the planets 10,000 years into the future or past with stellar accuracy to within 1/60 of a degree! Use astronomical occurrences to explore evidence for historical events (i.e. the Birth of Christ). How about charting your nautical position from celestial observations? Maybe you'd like to view the sky as it was on the night that Galileo peered through the world's first telescope. Go ahead! Explore! I must confess that I don't know if the Adler Planetarium's attendance will suffer because of this program, but it's the closest thing you can get to it right now without spending several million dollars. I picked up my copy of it for $19.99. I have paid 3 or 4 times that price for inferior programs that couldn't even hold a candle to ATARI PLANETARIUM. In short, this is one piece of software that definitely belongs in your library.

ABACUS ST
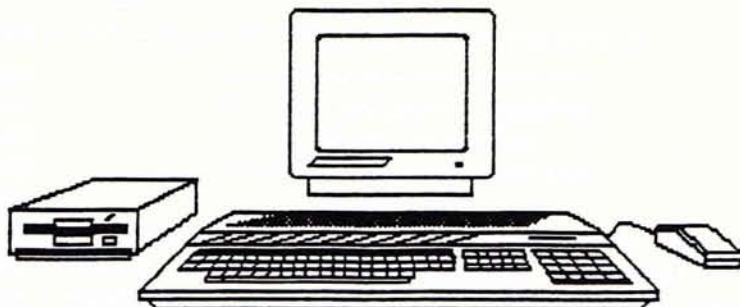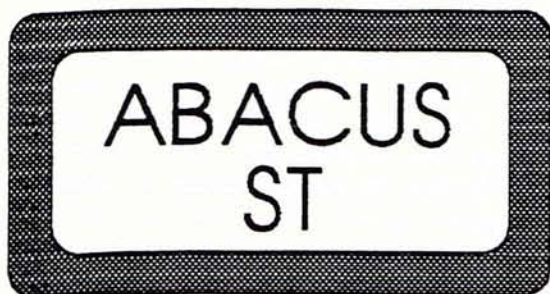
This month I am leaving out my Random Thoughts column, though I will mix some of them in with my World of Atari Highlights column. We also have a review of ST-Pool by Del Severy that he put together on Publishing Partner, creating an excellent layout (and saving me a lot of work!). Contributions are always welcome, and do not feel that you have to go to all the work that Del did. Text files of articles and reviews are just as welcome.

To anybody who attended the Atari Faire, it was obvious by both the crowds and the exhibitors that the ST is alive and kicking, and despite the slow release of products in the last few months, a lot is going on both the hardware and software side. We will all have the opportunity to spend lots of our dollars in the coming months

         - Rob Re

WORLD OF ATARI HIGHLIGHTS

by Rob Re

Considering the short time available to put the World of Atari Show together and the limited ads, the expo must be considered a big success. Lots of software and hardware for the ST were on display, and some of it was even available to buy, though none of the things that most of us were drooling about are out yet. Anyway, what follows are some of the ST highlights, as I saw them.

Word Perfect Corp had a much smaller booth than the extravagant setup they had at the West Coast Faire, but this one was centered around the ST and not the PC. This word processor looks like it is going to be the ultimate ST word processor for serious users. After all, with a retail price of almost $400 (and street price probably under $200), it won't be a runaway hit for home users. It looks like delivery date has slipped (surprise!!) to some time in September. Translated, that probably means the end of the year.

At the West Coast Faire, I could not get any commitments from the good folks at Broderbund as to when or even if they were going to put out some ST titles. Well, it looks like they finally came to their senses, and they will be coming out with some real winners soon. First of all, their popular karate game, Karateka, should be out shortly for the ST. Their ST version of Print Shop ($49) should be out in August or September. The Beta copy they were showing looked fantastic -- much better than any other version of Print Shop I have seen for other systems, and from the demo I saw, much better than Print Master Plus. Their other package will be a double package made up of Art Director and Film Director ($79 for both). The Art package is a full blown paint program with features not found on any other current paint program. Included are such features as multiple canvases in memory and on screen, rescale, stretch, distort, spin, and many more. The Film Director is a powerful and easy to use cell animation program. The results from this package are impressive, and it looks like it will be a lot easier to use than any current package. The program is designed to work with Art Director, and self running movies can be created that will run independent of Film Director, so we should be seeing a lot of great cartoons in the coming months. This set should be out around September. When you consider that products should be out by September to really make the Christmas season, I think we can count on Broderbund to keep on schedule. We will be having a representative from Broderbund at one of our future meetings so that we can get a more complete look at their ST offerings.

Soft Logik was present showing off their Publishing Partner program. New fonts were available, as well as Clip

Art disks for the program. In talking to Shawn Fogle, president of Soft Logik, I was able to find out about some of their planned future enhancements. Three significant additions will appear in a later update. First of all, text attributes will be stored, such as font and size, so that you can go back to a segment and not have to spend a lot of time trying to guess what font and size you were using at that point. Secondly, text routing will be included in some form that will route text around a graphics image. Finally, the capability to link objects together will be added. This will allow you to move a group of objects as if they were one object. I was told not to hold my breath for them to come out soon, so I do not think we will see a significant update soon. When it does come, though, Publishing Partner will be hard to beat.

Several image scanners were being displayed. The cheapest was Image Scan from Seymore-Radix. This $99 dollar unit tapes onto the print head of most dot matrix printers and scans the page like the Thunderscan for the Mac. The hookup did not look that slick, but for the price, the results were very acceptable. The other unit was a much more sophisticated system from Navarone Industries. Using a Cannon scanner and custom GEM software, this unit could scan a page in less than 15 seconds, and the results were very impressive. The steep price of $1239.95 is due mainly to the high cost of the Cannon scanner. For the user needing high quality and fast scanning, the Navarone unit looks like a winner.

The Atari booth was always crowded as onlookers took turns looking at and touching the so called "production level" Mega ST's and the Laser printer (The Mega's looked like production models but came in a plain white box). The most often asked question was "when?". I know because I was asking almost every Atari rep I could see all day. Not one rep gave me the same answer. Responses ranged from, "they are on the ship and will be out in less than a month", to "some time in September". No rep would even venture a guess of the price of the system when it does finally arrive,

except that a package of a Mega and a laser printer would go for less than $3000 and the laser printer would be less than $1500. As to which Mega, the two or the four, would come with the package, again it depends on which Atari rep you want to believe.

Oh well, at least we got a chance to see a Mega and find out a little more about it. It does indeed have a fan in it, so the days of the silent Atari are gone. On the bright side, despite some of those nasty rumors, the Mega will have the blitter built in. It can be turned on and off from the desk top, and on many screen operations, the improvement in speed is significant. The more screen information that has to be processed, the more significant the improvement is. The keyboard touch is slightly different than the current ST's, and it was obvious to everyone who inspected it that the case was designed by the same person who designed the 1040ST--the mouse/joystick connectors under the keyboard are even more awkward than on the 1040. Oh well, I guess the Mega's will be used much less for games, so access is not as important. One other inconvenience is the placement of the main power switch on the back of the system unit. Even the new IBM's have put the switch up front for easy access. At least the batteries for the clock are easily accessed through a door on top of the system unit, and the batteries are standard batteries.

Improvements have been made in the operating system on the Mega machines. The underscore bug in dialog boxes has been fixed. If you are not aware of this bug, bring up the control box and type an underscore in the date field and watch your ST crash. Also, the boot up memory clearing has been drastically speeded up so that booting up a 4 meg machine is pretty fast. Another change adds a query dialog box when you choose the save desktop option, allowing you the chance to cancel the request. I am not really sure why Atari added this function, but I guess they had their reasons. Besides these changes and the blitter support, some other bugs were also fixed, but no significant changes were made to the operating system. On the bright side, this should mean that there should not be any software incompatibility problems like many of us old 8-bitters
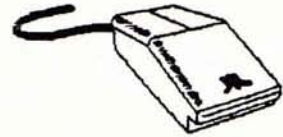
remember when the infamous 1200XL came out. All caveats aside, the Mega looks like a real sweet machine, and I for one am planning to upgrade some time this year (provided they hit the stores this year!).

The laser printer will probably be out after the Mega's are released, though the demo machine did come in a real (though massive) Atari box. Apparently the laser is ready to be shipped from "Japan Inc" as soon as Atari wants them. The holdup is in the interface box that goes between the Mega and the laser. It seems that the final revisions are just about finished, but with testing and all, well, you know how that goes. Again, like the Mega, we at least got a chance to see the laser in operation and find out some more "facts" about it. First of all, it will print pages at 8 pages per minute at 300 dot resolution, and the copies come out in the correct order for a multi page document, unlike some other lasers. Also, the paper tray is larger than most lasers, and unlike the printers using the Cannon engine, the drum and toner assemblies are changed separately so that the drum is not changed as often. This supposedly should reduce the cost of maintenance, but again no Atari rep would state a price on the drum and toner. Finally, on the hardware side, the interface, which looks just like their 1200 baud modem, has a DMA port on it so that a hard drive can be connected in a daisy chain fashion --shades of the 8-bit world.

Atari is not planning to support Postscript on the laser, but most reps agreed that it could be done by a third party. Their comment was that they could not see crippling the laser by adding postscript to it. The demo machine was using GDOS and building pages in the Mega's memory, printing out screen dumps, Microsoft Write documents, and desktop publishing pages. To do full page graphics, the printer will need at least a 2 meg machine. The Atari laser also will come with a Diablo 630 emulator allowing it to be used with all ST's and most word processors. The Diablo emulator will allow easily changed fonts.

Last, and probably least, 520STfm machines were being used around the fair. These machines are basically 1040's with 500k RAM, a single sided drive, and a TV modulator. The pros of the machine are the elimination of those external power supply and possibly cleaner (though not easier) meg upgrades. The main con is being stuck with a single sided drive, though it could be changed inside by a technical person. A person could conceivably buy a new 520STfm and upgrade it to a 1040ST with a video modulator for about the cost of a 1040, thought there would be some work involved and the warranty goes out the window (not a GEM window). I could not get a definite answer on whether or not the original 520 would still be sold. The indications I got were that both machines would be marketed, but time will tell.

Many other products were on display for the ST. Michtron was displaying their ever increasing line of ST software. Antic was also there with some of their latest products now available, including Phaser (financial package), Base Two (the new much improved version of DBMaster One), and of course their latest 3D creations running with their now available 3D glasses. On the hardware side, QMI's DeskCart was being shown. This $99 cartridge contains a battery back up time clock as well as 14 desk accessories. Astra was showing its combination hard drive/floppy with a 20 meg hard drive and a double sided 3 1/2 inch floppy. This unit, though not the prettiest thing on the market, appears to be a very quality unit and comes with a one year warranty.

There was a lot more to see, and I probably missed some important products, but this overview at least gives an idea that some quality products are finally coming out for the ST after a number of months without any significant releases. This should make most users and the dealers pretty excited.

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ST-POOL

A Review by Delmar Severy

ST-Pool was written by George Breen for Shelbourne Software in a clever attempt at simulating a versatile pool table.

The screen shows a pool table as seen from directly above. At the top of the screen are two wires with sliding ring markers on them. At the bottom of the screen can be seen the pool ball return, a racking box, and a close-up of the cue ball on which the contact spot for the cue stick can be changed.

OPTIONS
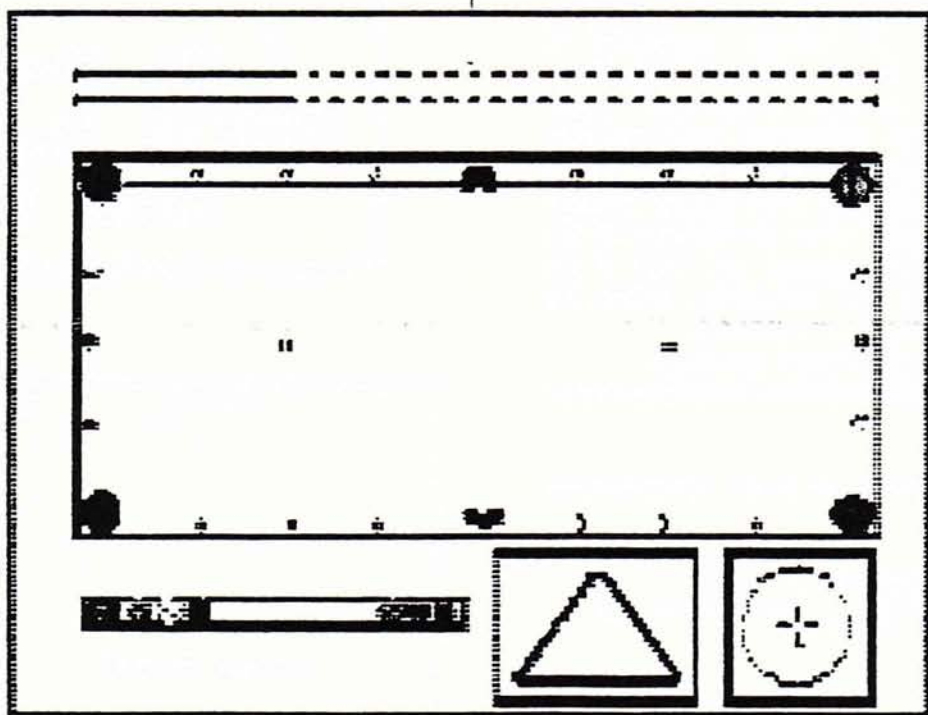include:
Select Rack
Create Rack
Table Color
Cheat

FILE
includes:
Load Game
Save Game
Save Game
As
Quit

GAMES
include:
Dominoes
Practice
Rack

function creates a line of light extending from the cue stick tip all the way across the table creating an excellent aiming device.

One can put English on the ball by moving a mark on the cue ball box in the bottom right corner of the screen.

The strength of the invisible player is phenominal. If one pulls the stick far back before striking the cue ball the result is uncanny. The balls have never travelled so far and so fast on a real pool table.

Obviously, the thing to do is to learn to use the cue stick realistically.

There are nine different table colors ranging from the traditional green all the way to violet. Score is kept by touching the beads at the top of the screen. They are colored in fives and tens for easy scoring.

The built in Racks include Random, Random2 (no point ball), 8 Ball, Rotation, 7 Ball, and 4 blank racks with which to create ones own formations.

The Cue stick floats above the table as though held by invisible hands. It can be rotated slowly with the Control and Shift keys, or rapidly by combining either one with the Alternate key. The cue is used to shoot pool by placing its tip over the cue ball and depressing the left mouse button. While holding the button down one pulls the cue stick back then pushes forward while releasing the button.

It is useful to use the cheat function until the game is well learned. The cheat

The balls are racked by choosing the rack from the bottom of the screen and clicking on it. This clears the table and racks up a new game. While playing the game balls can be retrieved from the ball rack by using the arrow and left mouse button. Balls can be placed at desired locations on the table in the same way.

One who likes pool and has a sharp eye can have a lot of fun with this game. An opponent to play against is even better.

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